IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of:		) ATTORNEY FILE NO.: SLA1254
Inventors:	Andrew Ferlitsch	)
Serial No.:	10/650,657	) Examiner: Timblin, Robert
Filed:	August 28, 2003	) Customer No.: 55,286
Title:	SYSTEM AND METHOD FOR POLICY-DRIVEN DEVICE QUERIES	) Group Art: 2167) Confirmation No.: 7275

Board of Patent Appeals and Interferences
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BRIEF ON APPEAL

This is an appeal from the rejection by Examiner Robert Timblin, Group Art Unit 2167, of claims 1-47 as set forth in the CLAIMS APPENDIX.

REAL PARTY IN INTEREST

The real party in interest is Sharp Laboratories of America, Inc., as assignee of the present application by an Assignment in the United States Patent Office with a Recordation Date of August 28, 2003, at Reel 014447, Frame 0072.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF THE CLAIMS

Claims 1-47 are in the application.

Claims 1-47 are rejected.

Claims 1-47 are appealed.

STATUS OF AMENDMENTS

Replacement drawings were submitted in a Request for Reconsideration offered under 37 CFR 1.116, responsive to a Final Office Action mailed on July 12, 2006. An Advisory Action mailed on August 18, 2006. The Advisory Action does not mention the Replacement drawings, so the Applicant assumes that the drawings have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

There are a number of query types that may be sent from a client (e.g., a personal computer) to a device (e.g., a printer), such as the device's identification, capabilities, or status. Further, there are a number of different methods for conducting a query. In the case of a printer for

example, a status query can be sent directly to the printer, or to a local spooler queuing jobs for the printer, inquiring about the status of a submitted print job. However, it is difficult to pre-program a client with the optimal query method for every situation. To continue the above example, the client is more likely to receive accurate status information from the spooler queuing jobs to a printer, than from the printer itself.

For simplicity and cost efficiency, many devices and/or clients are programmed with a single query method. Simple Network Management Protocol (SNMP) is an example of a conventional peer-to-peer network protocol that may be used to treat a device as the agent of the client. However, SNMP is not the optimal protocol for every type of query.

Some devices/clients are programmed with multiple query methods. Conventionally, these multiple query methods are hard-coded, so that a query is sent in response to a per-programmed selection. Alternately, the same query may be made using parallel methods, without regard method must likely to return the quickest or most valid reply.

As described in the Applicant's specification beginning on line 3 of page 24 and shown in Fig. 9, claim 1 describes a method that simply addresses the above-mentioned problems by: establishing a matrix that cross-references query policies to query methods; selecting a query policy; and, sending a query to a device's agent, using a method that is responsive to the selected query policy.

A number of different query policies are available for selection (as recited in the dependent claims), including policies that are optimized for accuracy, reliability, response time, element type, or information type. Thus, if the user seeks to inquire about print job status

after selecting a "response time" policy, a query method is used that insures the quickest job status response.

As described in the specification beginning on page 7 and shown in Fig. 4, the system of claim 25 includes a manager 406 with a plurality of embedded policies 410a-410*n*. The manager receives a query from a client 402, directed to device 414. The manager selects a particular query policy, and sends a query to the device using a method responsive to the selected query policy.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1 and 25 fail to comply with the written description requirement of 35 U.S.C. 112, first paragraph.

2. Where claims 1-47 are unpatentable under 35 U.S.C. 103(a) with respect to Aggarwal (US 6,985,944) in view of Mandal et al. ("Mandal"; US 6,170,009).

ARGUMENT

1. The rejection of claims 1 and 25 as failing to comply with the written description requirement of 35 U.S.C. 112, first paragraph.

The Final Office Action has rejected claims 1 and 25 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Office Action states that the phrase "each policy is cross-referenced to methods for communicating a query to a device", is not clearly defined in the specification.

In response, the Applicant notes that the specification is filled with examples that explain the relationship between query policy and query methods. A few examples from the specification are described below.

Page 21, ln. 18-24, describes a "fastest response" policy that cross-references methods, from fastest to slowest response times. The policy dictates that the fastest method is used first. If a result is not received, then the next fastest method is used.

Page 22, ln. 8-14, describes a "reliability" policy that ranks methods in a hierarchical order based upon reliability. The policy dictates that the most reliable method is used first, and if no reply is received, then the next-most reliable method is used.

Page 22, ln. 20 through page 23, ln. 8, describe an "agent" or "element-specific" policy that cross-references the query method to the manufacturer or model number of the element (agent) being queried. Page 26, ln. 15-20, describes the selection of an "information type" query policy, where a method is used corresponding to the information requested. Page 26, ln. 20-23 describes an "element-type" (agent-type) query policy, where a query method is used corresponding to the identified agent type.

Graphically, Fig. 5d illustrates a program unit that supplies a policy selection to a black box (manager). The black box uses the supplied policy to determine which method is selected (page 15, ln. 4-12).

35 U.S.C. 112, first paragraph, states that, "(t)he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same, and set forth the best mode contemplated by the inventor for carrying out his invention."

The Applicant respectfully submits that the specification would enable an expert to understand and make use of a database that cross-references query policies to methods for communicating a query to a device.

2. The rejection of claims 1-47 under 35 U.S.C. 103(a) as unpatentable with respect to Aggarwal (US 6,985,944) in view of Mandal et al. ("Mandal"; US 6,170,009).

The Final Office Action has rejected claims 1-47 under 35 U.S.C. 103(a) as unpatentable with respect to Aggarwal in view of Mandal. With respect to claims 1 and 25, the Office Action acknowledges that Aggarwal fails to disclose the selection of a query policy. The Office Action states that Mandal discloses the selection of a query policy, and that it would have been obvious to one with skill in the art to combine the teachings of Mandal with Aggarwal, to provide Aggarwal's system with a mechanism to specify a high-level policy for monitoring and controlling devices connected to a network. This rejection is traversed as follows.

An invention is unpatentable if the differences between it and the prior art would have been obvious at the time of the invention. As stated in MPEP § 2143, there are three requirements to establish a *prima facie* case of obviousness.

> First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the

> art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck* 947 F.2d 488, 20 USPQ2d, 1438 (Fed. Cir. 1991).

Generally, Aggarwal discloses a method of distributed data collection that permits system fault and performance monitoring to be collected in a central configuration database (Abstract). At col. 1, ln. 64-66, Aggarwal describes a fault management system that can query the state of a device and trigger upon a state change of threshold violation. At col. 8, ln. 50, through col. 9., ln. 14, Aggarwal describes a conventional SNMP network management protocol, to facilitate communication between a managed device with an SNMP agent, and an SNMP manager. The SNMP agent provides access to data stored in the managed device, and the manager uses to data access to control the managed device. At col. 5, ln. 60 through col. 6, ln. 5, Aggarwal discloses a data gathering operation that is preferably performed by discovery, which the Applicant notes is a conventional SNMP operation. Aggarwal's query method is not driven in consideration of a query policy.

Generally, Mandal discloses a system of network control, which permits a user to specify a high-level policy for controlling the actions of a group of network-connected devices (Abstract). At col. 1, ln. 53-67, Mandal discloses a high-level policy that is translated into lower-level commands that are delivered to devices. At col. 3, ln. 51-66. Mandal discloses a GUI that accepts commands to specify a high-level policy for controlling the actions of devices.

Unlike the Applicant's explicit recitation of a device communication query policy, Mandal describes a more abstract concept of policy as a system level behavior. Mandal describes a policy server as a device to control the actions of devices coupled to the network (col. 3, ln. 44-47). An example is given of a user command that will not permit the system to communicate more than 30% video traffic (col. 3, ln. 56-58). Alternately stated, Mandal's concept of policy is the establishment of system-wide behavior, not the much more limited definition of communication protocols between devices.

The Applicant defines "query policy" as one or more groups of query methods, where each group may include a plurality of query methods (page 4, ln. 5-7). It would be understood by an expert reading the Applicant's specification that a query method is the specific protocol used to by a client to query a device. For example, API, SNMP, Windows 2K, SLP, and PJL are listed as examples of query methods (page 4, ln. 7-13).

The current consensus of the CAFC is that the claims are to be interpreted in light of the supporting specification, *Phillips v. AWH Corp.* No. 03-1269 (Fed. Cir. 7/12/2005). In this decision, the Court stated:

"Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. This court explained that point well in Multiform Desiccants, Inc. v. Medzam, Ltd., 133 F.3d 1473, 1477 (Fed. Cir. 1998):

> It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with

> an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field. The inventor's words that are used to describe the invention-the inventor's lexicography-must be understood and interpreted by the court as they would be understood and interpreted by a person in that field of technology. Thus the court starts the decisionmaking process by reviewing the same resources as would that person, viz., the patent specification and the prosecution history."

The Applicant's specification clearly defines "device communication query policy" as something different that Mandal's use of the word "policy". The Applicant respectfully submits that Mandal's concept of policy has little application to the Applicant's query policy or Aggarwal's discussion of an SNMP query method.

With respect to the first *prima facie* requirement to support as case for obviousness, there is no teaching in the Mandal reference to suggest a modification to Aggarwal that makes the claimed invention obvious. Aggarwal discloses conventional SNMP management. As noted in the Applicant's Background Section (page 1, ln. 22 through page 2, ln. 13), there is more than one method for communicating between managers and managed devices, and the SNMP protocol does not guarantee that an appropriate method is always selected. In contrast, the claimed invention makes the selection of a particular device communication method dependent upon a selected communication-related policy (e.g., response time v. reliability). Mandal does not suggest any modification to Aggarwal's SNMP protocol or to the *method* of communicating with devices, as Mandal is more concerned with abstract system level behavior. That is, Mandal does not suggest that Aggarwal's SNMP protocol be modified to a protocol that selects a communication query method as a result of first selecting a device communications query policy.

Considered from a different perspective (the second *prima facie* requirement), even if an expert were given the Mandal and Aggarwal disclosures at the time of the invention, no expectation has been demonstrated in either Office Action or references themselves, that Aggarwal's conventional SNMP policy can be modified. Alternately stated, neither reference considers the grouping of query methods by characteristics such as speed or reliability. Neither reference considers that groupings (policies) can be made selectable.

The ***Response to Arguments*** Section of the Final Office Action states that it would have been obvious to combine the teachings of Aggarwal and Mandal "because both pertain to monitoring devices in a network environment.... More specifically, if one skilled in the art were to use the device-specific policies defined by Mandal with the device querying and information retrieval/collection of Aggarwal to obtain control over devices couples to a computer network Mandel (col. 1 line 47-49)."

Referring to the above-cited mention of "device-specific policies", the Advisory Action states that Mandel discloses "policy objects (that) communicate to devices with device-specific protocols" (col. 4, ln. 30-45), and that device objects contain data and methods that can be used to communicate with associated devices over a network (col. 4, ln. 41-51).

In response, the Applicant respectfully submits that the above-mentioned summary of Mandel is not entirely accurate. At col. 4. ln. 30-44, Mandel states:

> Policy objects 221, 222, 223, 224, 225 and 226 communicate with devices through device Policy Programming Interface (device PPI) 230. Device PPI 230 provides a uniform interface for communicating with devices across network 108. To this end, device PPI 230 includes a

> number of adapters for communicating with different devices using device-specific protocols. In general, device PPI 230 includes a different adapter for each different type of device it communicates with. More particularly, device PPI 230 includes: device adapter 231 for communicating with NFS devices; device adapter 233 for communicating with database devices; and device adapter 235 for communicating with web server devices. As illustrated in FIG. 2, device PPI 230 can additionally communicate directly across network 108 through communication link 236.

Mandal discloses a Policy Programming Interface (PPI) 230 with a *uniform* interface between the policies in storage area 220 and the device objects. Mandal also discloses adaptors (objects) for communicating with devices using device-specific protocols (see Fig. 2). Mandal's PPI separates the policies from the objects, and Mandal makes no direct linkage between a selected policy (e.g., policy 221) and any particular device object (e.g., 232) or device adaptor (e.g., 231). Therefore, Mandal does not cross-reference policies to query methods, or use a particular method as a result of a selected policy. It is Mandal's PPI that is linked to the objects (device-specific protocols).

The Advisory Action goes on to say that Mandel discloses a GUI 124 that specifies a policy for controlling the actions of devices, and that a policy server sends received commands to respective devices (col. 3, ln. 50-67). The Advisory Action states that this citation discloses that a policy is selected and sent to the appropriate device. In response, the Applicant notes that claims 1 and 25 do not recite the sending of a selected policy to an appropriate device. Alternately stated, the cited section from Mandel still does not describe a query method used to communicate with a device, where the query method is responsive to a selected query policy.

The Advisory Action also states that it would have been obvious to combine the Mandel teachings with Aggarwal "because Mandel's teachings would provide device-specific commands for continuous monitoring and control of Aggarwal's devices. In the interest of time, Mandal's automated system would make more efficient the monitoring of system faults and system performance..."

In response, it is not apparent from reading either of the prior art references that there is any particular linkage between Mandal's device-specific commands and Aggarwal's monitoring function. Neither has any evidence been provided that Aggarwal's monitoring functions would be performed more efficiently using device-specific commands, or that an expert would be motivated to replace Aggarwal's SNMP protocol with device-specific commands. Further, even if Mandal can be combined with Aggarwal as stated in the Office Action, the Applicant notes that claims 1 and 25 do not recite device-specific commands, or the continuous monitoring of system faults and system performance.

With respect to the third *prima facie* requirement, even if the references are combined, that combination does not disclose all the elements of the invention of claims 1 and 25. Neither reference describes a method (or manager) that selects a device communications query policy, which is cross-referenced to methods for communicating the query. Neither reference sends a query to a device using a method responsive to the selected query policy. As noted above, Aggarwal does not select a query policy, or use a method responsive to a policy. Mandal describes the implementation of "policy" at higher Application levels, and a device adaptor (object) that uses device-specific commands for device management. However, Mandal does not make any association between a

selected policy and the device adaptor. As cited above, Mandal uses a uniform Policy Programming Interface to interface between policies and device objects. Therefore, the combination of Aggarwal with Mandal does not explicitly describe every limitation of claims 1 and 25. Neither does the combination suggest modifications that make these missing limitations obvious. Claims 2-24, dependent from claim 1, and claims 26-47, dependent from claim 25, enjoy the same distinctions from the cited prior art.

SUMMARY AND CONCLUSION

It is submitted that for the reasons pointed out above, the claims in the present application clearly and patentably distinguish over the cited references. Accordingly, the Examiner should be reversed and ordered to pass the case to issue.

A PTO-2038 form is enclosed, in the amount of $500.00, to cover the fee for this Appeal Brief. Authorization is given to charge any deficit or credit any excess to Deposit Account No. 502,033.

Respectfully submitted,

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ATTACHMENT A (Aggarwal; US 6,985,944)

ATTACHMENT B (Mandal et al.; US 6,170,009)

CLAIMS APPENDIX

IN THE CLAIMS:

1. (previously presented) In a system of devices, a policy-driven method for querying, the method comprising:

establishing a plurality of device communication query policies, where each query policy is cross-referenced to methods for communicating a query to a device;

accepting a query, from a client, directed to a device;

selecting a query policy; and,

sending the query to an agent representing the device, using a method responsive to the selected query policy.

2. (original) The method of claim 1 further comprising:

receiving a query result from the agent; and,

sending the query result to the client using a method responsive to the selected query policy.

3. (original) The method of claim 2 further comprising:

merging a plurality of query results in response to the selected query policy; and,

wherein sending the query result to the client includes sending the merged query result to the client.

4. (original) The method of claim 3 wherein selecting a query policy includes selecting a multi-mode query policy;

wherein sending the query to the agent includes sending a query to a plurality of agents;

wherein receiving a query result from the agent includes receiving a plurality of query results from the corresponding plurality of agents; and,

wherein merging a plurality of query results includes merging the plurality of query results from the plurality of agents.

5. (original) The method of claim 2 wherein selecting a query policy includes using a selection criteria from the group including pre-configured, manual, and automatic selection criteria.

6. (original) The method of claim 5 wherein using an automatic selection criteria includes using an automatic selection criteria from the group including static, heuristic, and adaptive criteria.

7. (original) The method of claim 4 wherein selecting a query policy includes selecting a global query policy that is independent of the information requested in the query.

8. (original) The method of claim 4 wherein selecting a query policy includes selecting an information-type query policy; and,

wherein sending the query to the plurality of agents using a method responsive to the selected query policy includes, for each agent, using a method corresponding to the information requested in the query.

9. (original) The method of claim 4 wherein selecting a query policy includes selecting an element-type query policy; and,

the method further comprises:

identifying each type of agent associated with a directed query; and,

wherein sending the query to the plurality of agents using a method responsive to the selected query policy includes, for each agent, using the method corresponding to the identified agent type.

10. (original) The method of claim 4 wherein selecting a query policy includes selecting a policy from the group including response time and reliability policies.

11. (original) The method of claim 10 wherein selecting a query policy includes selecting a response time policy; and,

the method comprising:

ranking the probable time associated with each agent query result; and,

wherein sending the query to the plurality of agents includes sending the queries in a hierarchical order responsive to the probable result times.

12. (original) The method of claim 10 wherein selecting a query policy includes selecting a reliability policy; and,

the method comprising:

ranking the probable reliability associated with each agent query result; and,

wherein sending the query to the plurality of agents includes sending the queries in a hierarchical order responsive to probable reliability.

13. (original) The method of claim 3 wherein selecting a query policy includes selecting an accuracy policy; and,

the method comprising:

ranking the probable accuracy associated with each agent query method;

wherein sending the query to an agent includes sending a query to an agent using a plurality of methods;

wherein receiving a query results from the agent includes receiving a plurality of results corresponding to the plurality of query methods; and,

wherein merging a plurality of query results includes selecting the results most likely to be accurate.

14. (original) The method of claim 1 wherein accepting a query, from a client, directed to a device includes accepting a query directed to information concerning device communication port information, network information, communication checks (Ping), capability requests, and status updates; and,

wherein sending the query result to the client using a method responsive to the selected query policy includes sending a query result directed to information concerning device communication port information, network information, communication checks (Ping), capability requests, and status updates.

15. (original) The method of claim 1 wherein sending the query to the agent using a method responsive to the selected query policy includes using a method selected from the group including spooler application programming interface (API), simple network management protocol (SNMP), printer database, proprietary protocol, Windows 2K directory service, service location protocol (SLP), print job language (PJL) USTATUS, BMLinkS queries, queries concerning an embedded device web page using hypertext transport protocol (HTTP), and other industry standard methods.

16. (original) The method of claim 3 wherein merging a plurality of query results includes merging query results using a process selected from the group including filtering query results, grouping a plurality of results into a single result, and weighing the plurality of results.

17. (original) The method of claim 1 further comprising:

caching device information; and,

wherein receiving a query result from the agent includes receiving cached device information as the query result.

18. (original) The method of claim 1 wherein accepting a query, from a client, directed to a device includes accepting a query from a client selected from the group including local, remote, network-connected clients.

19. (original) The method of 1 wherein sending the query to a agent using a method responsive to the selected query policy includes sending a query to an agent having a connectivity with the device selected from the group including local, remote, and network connectivity.

20. (original) The method of claim 1 wherein accepting a query, from a client, directed to a device includes accepting a query directed to an imaging device selected from the group including a printer, fax, scanner, multifunctional peripheral (MFP), and copier devices.

21. (original) The method of claim 1 wherein sending the query to an agent using a method responsive to the selected query policy includes sending the query to an agent selected from the group including the device that is the subject of the query and a microprocessor-driver computer including a service in communication with the device.

22. (original) The method of claim 2 wherein accepting a query, from a client, directed to a device includes accepting a query directed to a first device;

wherein sending the query to a agent using a method responsive to the selected query policy includes sending the query to a agent cache including first device permanent information; and,

wherein receiving a query result from the agent includes receiving first device permanent information query results from the agent cache.

23. (original) The method of claim 22 further comprising:

caching device information in the agent cache; and,

wherein receiving a query result from the agent includes receiving query results from the agent cache selected from the group including permanent and cached device information.

24. (original) The method of claim 23 wherein caching device information in the agent cache includes caching semi-permanent information that does not change between power up cycles and non-permanent data that changes between power up cycles.

25. (previously presented) A policy-driven system for querying devices, the system comprising:

a client having an interface to supply a query directed to a device; and,

a manager having an interface connected to receive the query from the client, a plurality of device communications query policies, where each query policy is cross-referenced to methods for communicating with a device, and an interface to send queries, the manager selecting a query policy and sending the query using a method responsive to the selected query policy.

26. (original) The system of claim 25 further comprising:

an agent having an interface to receive queries from the manager and to send query results to the manager; and,

wherein the manager sends query results, received from the agent, to the client using a method responsive to the selected query policy.

27. (original) The system of claim 26 wherein the agent has an interface for relaying queries; and,

the method further comprising:

a device having an interface to receive queries relayed from the agent and to supply query results to the agent.

28. (original) The system of claim 26 wherein the manager merges a plurality of query results in response to the selected query policy and sends the merged query result to the client.

29. (original) The system of claim 28 wherein the manager selects a multi-mode query policy, sends a query to a plurality of agents, receives a plurality of query results from the corresponding plurality of agents, and merges the plurality of query results.

30. (original) The system of claim 26 wherein the manager selects a policy in response to criteria from the group including pre-configured, manual, and automatic selection criteria.

31. (original) The system of claim 30 wherein the manager uses an automatic policy selection criteria from the group including static, heuristic, and adaptive policies.

32. (original) The system of claim 26 wherein the manager selects a global query policy that is independent of the information requested in the query.

33. (original) The system of claim 26 wherein the manager selects an information-type query policy and sends queries corresponding to the information requested in the query.

34. (original) The system of claim 26 wherein the manager selects an element-type query policy, identifies each type of agent associated with a directed query, and sends queries using a method corresponding to the identified agent type.

35. (original) The system of claim 26 wherein the manager selects a response time policy, ranks the probable time associated with each agent query result, and sends the queries in a hierarchical order responsive to the probable result times.

36. (original) The system of claim 26 wherein the manager selects a reliability policy, ranks the probable reliability associated with each agent query result, and sends the queries in a hierarchical order responsive to probable reliability.

37. (original) The system of claim 28 wherein the manager selects an accuracy policy, ranks the probable accuracy associated with each agent query method, sends a query to a agent using a plurality of methods, receives a plurality of results corresponding to the

plurality of query methods, and merges the plurality of query results by selecting the results most likely to be accurate.

38. (original) The system of claim 26 wherein the manager accepts a query from the client directed to information concerning device communication port information, network information, communication checks (Ping), capability requests, and status updates, and sends a query result to the client directed to information concerning device communication port information, network information, communication checks (Ping), capability requests, and status updates.

39. (original) The system of claim 26 wherein the manager sends a query to the agent using a method selected from the group including spooler API, simple network management protocol (SNMP), printer database, proprietary protocol, Windows 2K directory service, service location protocol (SLP), PJL USTATUS, BMLinkS queries, queries concerning an embedded device web page using hypertext transport protocol (HTTP), and other industry standards.

40. (original) The method of claim 28 wherein the manager merges query results using a process selected from the group including filtering query results, grouping a plurality of results into a single result, and weighing the plurality of results.

41. (previously presented) The system of claim 26 wherein the agent includes a cache for storing device information; and,

wherein the manager receives a cached query result from the agent in response to the selected query policy.

42. (original) The system of claim 26 wherein the client is a device that has a relationship with the manager selected from the group including local, remote, network connectivity.

43. (original) The system of 27 wherein the device is a device that has a relationship with the manager selected from the group including local, remote, and network connectivity.

44. (original) The system of claim 27 wherein the device is a device selected from the group including a printer, fax, scanner, multifunctional peripheral (MFP), and copier devices.

45. (original) The system of claim 27 wherein the agent is a device selected from the group including the device that is the subject of the query and a microprocessor-driver computer including a service in communication with the device.

46. (original) The system of claim 26 wherein the agent includes a cache with first device permanent information and semi-permanent information, that does not change between power up cycles, the agent returning a query result from the cache in response to a query concerning the first device.

47. (original) The system of claim 46 wherein the agent cache includes non-permanent first device information that changes between power up cycles, the agent returning a query result with device information selected from the group including permanent, semi-permanent, and non-permanent information.

EVIDENCE APPENDIX